

## ABSTRACT

This invention relates to DNA libraries based on plasmid or viral vectors that can express double-stranded RNA of 10-30 base pairs in length with all possible sequences, where each of the double stranded RNA is formed by a single RNA molecule in the form of hairpin, or formed by two separate RNA molecules with different 3'-overhangs. Each single member in such a DNA library encodes all components of a double stranded RNA as specified above. Such a library can be used in screening for double stranded RNA species that can induce a given phenotype without prior knowledge of their target genes. This invention further relates to a method to generate such a DNA library.

(Fig. 1A)